



NATIONAL IMAGERY AND MAPPING AGENCY

4400 SANGAMORE ROAD
BETHESDA, MARYLAND 20816-5068

APR 03 1998

U-087/98-COTA

MEMORANDUM FOR COMMANDANT, UNITED STATES ARMY ENGINEER SCHOOL

THROUGH: DEPUTY CHIEF OF STAFF FOR INTELLIGENCE, DEPARTMENT
OF THE ARMY
DEPUTY CHIEF OF STAFF, UNITED STATES ARMY TRAINING
AND DOCTRINE COMMAND

On 21 Apr 98
Dir 5/22/98

SUBJECT: Army Digital Topographic Data (DTD) Requirements

REFERENCE: ATSE-AC memorandum, 18 February 1998, subject as
above with 2 endorsements (1st Endorsement from
ATCD-GI) (2nd Endorsement from DAMI-POB)

1. The National Imagery and Mapping Agency (NIMA) accepts the U.S. Army's initial DTD requirements, stated in the reference above, with exceptions noted in paragraph 5 below.
2. NIMA plans to support your requirements utilizing our newly developed readiness and responsiveness geospatial information production strategy, jointly developed in concert with the Services, known as the Foundation Data (FD) concept. This strategy calls for the establishment of near global coverage of FD which includes medium resolution terrain elevation, feature, and imagery data for readiness. The responsiveness component calls for the production of higher resolution data sets called Mission Specific Data Sets (MSDS) to be produced "just in time" to meet specific mission requirements.
3. Stage 1 of your DTD requirements will be supported with FD composed of Digital Point Positioning Data Base (DPPDB), Controlled Image Base 5 meter (CIB5), Interferometric Digital Terrain Elevation Data Level 2 (IFSAR DTED2), Foundation Feature Data (FFD), and Digital Nautical Chart (DNC). When these information sets are fused together, they provide a powerful and dynamic view of the battlespace.
4. FD was designed to provide a near global set of geospatial information, which can be efficiently produced. It serves as an accurate base for military planning and becomes the base for further rapid MSDS densification to support higher resolution requirements. Coverages currently in the FFD, should satisfy the majority of your stated requirements. Due to the cost (in terms of time) to collect vegetation under our current processes, it will not be included in our initial production. Alternative methods of producing this data are currently being researched.

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Once an acceptable method is determined, initial data sets will be updated with the required vegetation information. We expect a solution this year.

5. FD exceptions.

a. Soil/surface materials, select utilities such as power lines, and Littoral Warfare Data: This data is time consuming to produce, thus not fitting the intent of FD. We are recommending that they be handled as MSDS. As with vegetation, we are actively exploring methods to derive a near global planning data set of soils/surface materials that will be usable by Service analysis algorithms. We will keep you informed of our efforts.

b. Five meter Multispectral Imagery (MSI) and Hyperspectral Imagery (HSI): Currently, there is no system in operation capable of collecting this data. Present indications are that five meter MSI and HSI will be cost prohibitive at near global coverage. When commercial and new national capabilities become available, we will need to jointly readdress this issue.

6. Stage 2 requires rapid response production of MSDS. NIMA stands ready to assist Army in the development of your MSDS requirements for feature data. If NIMA is to meet the Army's stated timelines, it is imperative that Army make a concerted effort to derive the minimum but essential data elements needed to meet the Stage 2 mission requirements. We will assist you in the development of the required MSDS to meet the needs of the First Digital Division and First Digital Corps. We would like to use MAPEX 2010 and other warfighting exercises and experiments to do this. MAPEX 2010 is a NIMA sponsored series of Service and Command exercises designed to develop/prove our rapid response capability as well as assist in the develop of MSDS. We intend to satisfy your Stage 2 requirements "just in time" in accordance with your stated timelines. We will, however, produce and maintain MSDS "just in case" over training areas and where Commands identify critical requirements.

7. Stage 3, enriched data, will also be produced as MSDS. As stated for Stage 2 requirements, we stand ready to assist in their development prior to your follow-on MSDS submission.

8. Paragraph 3.d. of your memorandum requests FD be produced to meet the requirements of Stage 1 by FY 2000. A thorough analysis by the Agency indicates your request is unachievable within the current resource constraints. Our current planning estimates for FD are:

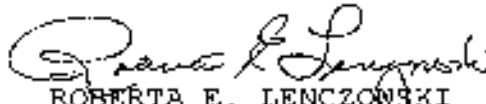
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- DFPDB: 10,000 1 degree cells by FY 2003
- CIBS: 19,500 1 degree cells by FY 2003
- IFSAR DTED2: 80 percent global coverage well before FY 2003
- FFD: 5500 1 degree cells by the end of FY 2005
- DNC: near global coverage by FY 2001

Although NIMA accepts your requirement for large areas of the world by FY 2000, we look to work with the Commands and Services to refine the area requirements so that we only produce the feature component in areas where it makes sense to do so. In the next few weeks, NIMA will release a message to the Commands and Services requesting discrete area requirements and priorities for FFD. The FFD production goal will then be based on these requirements.

9. There will be difficult technical and resource challenges as we move to the digital battlefield of the future. We are committed to providing the support necessary to ensure your information dominance on the battlefields of Army Vision 2010 and Army After Next.

10. The point of contact is Lieutenant Colonel David C. Hampel, U.S. Army, NIMA (COTA), (703) 264-3001 or DSN 570-3001.


ROBERTA E. LENCZOWSKI
Deputy Director
for Operations